

Amendments To The Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

1-25. (Canceled)

26. (Currently amended) A method of cleaning a substrate, the method comprising the steps of:
forming a substantially non-aqueous fluid comprising percarbonic acid; and
thereafter contacting the a substrate with the a substantially non-aqueous fluid
~~comprising percarbonic acid~~ under conditions conducive to removing contaminants from the substrate.

27. (Original) The method of claim 26, wherein the contaminants are at least one of biological, organic, inorganic or particulate residues.

28. (Currently amended) A method of at least one of disinfecting or sterilizing a substrate, the method comprising the steps of:
forming a substantially non-aqueous fluid comprising percarbonic acid; and
thereafter contacting the a substrate with the a substantially non-aqueous fluid
~~comprising percarbonic acid~~ under conditions conducive to disinfecting and/or sterilizing the substrate.

29. (Currently amended) A method of cleaning and at least one of disinfecting or sterilizing a substrate, the method comprising the steps of:
forming a substantially non-aqueous fluid comprising percarbonic acid; and
thereafter contacting the a substrate with the a substantially non-aqueous fluid
~~comprising percarbonic acid~~ under conditions conducive to removing contaminants from the substrate and conducive to disinfecting and/or sterilizing the substrate.

30. (Cancelled).

31. (Original) The method of claim 29, wherein the contaminants are biological, organic, inorganic, or particulate residues.

32-33. (Cancelled).

34. (Previously presented) The method of claim 29, wherein the fluid comprises liquid or supercritical carbon dioxide.

35. (Previously presented) The method of claim 28, wherein the fluid and the substrate are contacted with a plasma.

36-38. (Cancelled).

39. (Original) The method of claim 35, wherein the plasma is an UV irradiated and weakly ionized plasma.

40. (Cancelled).

41. (Previously presented) The method of claim 28, wherein the fluid and the substrate are irradiated with UV light during at least a portion of the contacting step.

42. (Original) The method of claim 41, wherein at least about 40% of the UV irradiation has a wave length of less than 300 nm.

43-44. (Cancelled).

45. (Original) The method of claim 41, wherein the UV irradiation is continuous or intermittent.

46-51. (Cancelled).

52. (Previously presented) The method of claim 28, wherein the fluid further comprises at least one additive.

53. (Previously presented) The method of claim 52, wherein the additive is selected from the group consisting of inert gases, ozone, nitrogen, noble gases, carbon monoxide, carbon tetrachloride, carbon tetrafluoride, hydrogen peroxide, and mixtures thereof.

54. (Previously presented) The method of claim 28, wherein the substrate is translated in at least one direction during at least a portion of the contacting step.

55. (Original) The method of claim 54, wherein the substrate is translated in at least two dimensions during at least a portion of the contacting step.

56-57. (Cancelled).

58. (Previously presented) The method of claim 28, wherein the method further comprises the step of drying the substrate after contacting the substrate with the fluid.

59. (Previously presented) The method of claim 28, wherein the substrate is composed of a metal, a ceramic, a glass, a polymer or a combination thereof.

60. (Previously presented) The method of claim 59, wherein the substrate is composed of stainless steel, platinum, iridium, palladium, nickel, gold, titanium, zirconium, inconel, cobalt steel, aluminum, copper, zinc, bronze, metal plating, metal foams, magnetic substrates, polypropylene, neoprene, Buna-N, Butyl Rubber, silicones,

Viton, EPDM, polyurethane, polyetheretherketone, nylon, Teflon, Tyvek, biocompatible fabrics and polymers, cellulose acetates, PVC, CPVC, polycarbonate, Delrin, polyetherimide, polyamide, polyimide, silicon dioxide, borosilicate, quartz, alumina, silica, borosilicate, zirconium oxide, silicon carbide, boron nitride, magnetic ceramics, superconductive ceramics, or combinations thereof.

61-62. (Cancelled).

63. (Previously presented) The method of claim 28, wherein the substrate is a medical device, a biomedical implant, a semiconductor wafer, an electronic device, or optical element.

64. (Original) The method of claim 63, wherein the substrate is a medical device.

65. (Original) The method of claim 64, wherein the substrate is a reusable endoscope.

66-92. (Canceled).

93. (Previously presented) The method of claim 26, 28, or 29, wherein the substantially non-aqueous fluid comprising percarbonic acid is formed by contacting hydrogen peroxide and carbon dioxide under conditions conducive to formation of percarbonic acid, wherein a percarbonic acid rich phase and an aqueous phase are formed, and separating the percarbonic acid rich phase from the aqueous phase to form the substantially non-aqueous fluid comprising percarbonic acid.

94. (Previously presented) The method of claim 93, wherein after the percarbonic acid rich phase is separated from the aqueous phase, the percarbonic acid

rich phase is further dried to form the substantially non-aqueous fluid comprising percarbonic acid.

95. (Currently amended) A method of cleaning a substrate, disinfecting a substrate, and/or sterilizing a substrate, the method comprising the steps of:

forming a substantially non-aqueous fluid comprising percarbonic acid in an external vessel; and

thereafter contacting the substrate with the thus formed substantially non-aqueous fluid comprising percarbonic acid under conditions conducive to removing contaminants from the substrate, disinfecting, and/or sterilizing the substrate.

96. (Previously presented) The method of claim 95, wherein the contaminants are at least one of biological, organic, inorganic or particulate residues.

97. (Previously presented) The method of claim 95, wherein the fluid comprises liquid or supercritical carbon dioxide.

98. (Previously presented) The method of claim 95, wherein the fluid and the substrate are contacted with a plasma.

99. (Previously presented) The method of claim 98, wherein the plasma is an UV irradiated and weakly ionized plasma.

100. (Previously presented) The method of claim 95, wherein the fluid and the substrate are irradiated with UV light during at least a portion of the contacting step.

101. (Previously presented) The method of claim 100, wherein at least about 40% of the UV irradiation has a wave length of less than 300 nm.

102. (Previously presented) The method of claim 100, wherein the UV irradiation is continuous or intermittent.

103. (Previously presented) The method of claim 95, wherein the fluid further comprises at least one additive.

104. (Previously presented) The method of claim 103, wherein the additive is selected from the group consisting of inert gases, ozone, nitrogen, noble gases, carbon monoxide, carbon tetrachloride, carbon tetrafluoride, hydrogen peroxide, and mixtures thereof.

105. (Previously presented) The method of claim 95, wherein the substrate is translated in at least one direction during at least a portion of the contacting step.

106. (Previously presented) The method of claim 105, wherein the substrate is translated in at least two dimensions during at least a portion of the contacting step.

107. (Previously presented) The method of claim 95, wherein the method further comprises the step of drying the substrate after contacting the substrate with the fluid.

108. (Previously presented) The method of claim 95, wherein the substrate is composed of a metal, a ceramic, a glass, a polymer or a combination thereof.

109. (Previously presented) The method of claim 108, wherein the substrate is composed of stainless steel, platinum, iridium, palladium, nickel, gold, titanium, zirconium, inconel, cobalt steel, aluminum, copper, zinc, bronze, metal plating, metal foams, magnetic substrates, polypropylene, neoprene, Buna-N, Butyl Rubber, silicones, Viton, EPDM, polyurethane, polyetheretherketone, nylon, Teflon, Tyvek,

biocompatible fabrics and polymers, cellulose acetates, PVC, CPVC, polycarbonate, Delrin, polyetherimide, polyamide, polyimide, silicon dioxide, borosilicate, quartz, alumina, silica, borosilicate, zirconium oxide, silicon carbide, boron nitride, magnetic ceramics, superconductive ceramics, or combinations thereof.

110. (Previously presented) The method of claim 95, wherein the substrate is a medical device, a biomedical implant, a semiconductor wafer, an electronic device, or optical element.

111. (Previously presented) The method of claim 110, wherein the substrate is a medical device.

112. (Previously presented) The method of claim 111, wherein the substrate is a reusable endoscope.